

WHAT IS CLAIMED IS:

1. An immunogenic composition comprising an isolated polypeptide, wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, or SEQ ID NO:6, and wherein the composition induces production of an antibody that specifically binds to equine IgE.

2. The composition of claim 1, wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:1.

3. The composition of claim 1, wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:2.

4. The composition of claim 1, wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:3.

5. The composition of claim 1, wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:4.

6. The composition of claim 1, wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:5.

7. The composition of claim 1, wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:6.

8. The composition of claim 1, wherein the composition includes a carrier molecule.

9. The composition of claim 1, wherein the composition includes an adjuvant.

10. A composition comprising an antibody that specifically binds to a polypeptide at least 80% identical to SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, or SEQ ID NO:6.

11. The composition of claim 10, wherein the antibody specifically binds to a polypeptide at least 80% identical to SEQ ID NO:1.

12. The composition of claim 10, wherein the antibody specifically binds to a polypeptide at least 80% identical to SEQ ID NO:2.

13. The composition of claim 10, wherein the antibody specifically binds to a polypeptide at least 80% identical to SEQ ID NO:3.

1 14. The composition of claim 10, wherein the antibody specifically binds
2 to a polypeptide at least 80% identical to SEQ ID NO:4.

1 15. The composition of claim 10, wherein the antibody specifically binds
2 to a polypeptide at least 80% identical to SEQ ID NO:5.

1 16. The composition of claim 10, wherein the antibody specifically binds
2 to a polypeptide at least 80% identical to SEQ ID NO:6.

1 17. The composition of claim 10, wherein the composition is antiserum.

1 18. The composition of claim 10, wherein the antibody is labeled.

1 19. The composition of claim 18, wherein the antibody is labeled with an
2 enzyme capable of generating a detectable signal.

1 20. The composition of claim 10, wherein the antibody is labeled with
2 radioactive iodine.

1 21. The composition of claim 10, wherein the antibody is labeled with
2 biotin.

1 22. An antibody that specifically binds to equine IgE made by the process
2 of immunizing an animal with a polypeptide at least 80% identical to SEQ ID NO:1, SEQ ID
3 NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, or SEQ ID NO:6.

1 23. The antibody of claim 22 wherein the polypeptide is at least 80%
2 identical to SEQ ID NO:1.

1 24. The antibody of claim 22 wherein the polypeptide is at least 80%
2 identical to SEQ ID NO:2

1 25.. The antibody of claim 22 wherein the polypeptide is at least 80%
2 identical to SEQ ID NO:3.

1 26. The antibody of claim 22 wherein the polypeptide is at least 80%
2 identical to SEQ ID NO:4.

1 27. The antibody of claim 22 wherein the polypeptide is at least 80%
2 identical to SEQ ID NO:5.

28. The antibody of claim 22 wherein the polypeptide is at least 80% identical to SEQ ID NO:6.

29. A method of making an antibody that specifically binds to equine IgE, the method comprising:
immunizing an animal with a composition further comprising an isolated polypeptide, wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, or SEQ ID NO:6; and
collecting antiserum from the animal.

30. The method of claim 29 wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:1.

31. The method of claim 29 wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:2.

32. The method of claim 29 wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:3.

33. The method of claim 29 wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:4.

34. The method of claim 29 wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:5.

35. The method of claim 29 wherein the amino acid sequence of the polypeptide is at least 80% identical to SEQ ID NO:6.

36. The method of claim 29 wherein the composition includes an adjuvant.

37. The method of claim 29 wherein the composition includes a carrier molecule.

38. A method of detecting equine immunoglobulin E protein in a biological sample, the method comprising:
contacting the sample with the composition of claim 10, thereby forming an antigen/antibody complex; and

- 5 detecting the presence or absence of the antigen/antibody complex.
- 1 39. The method of claim 38, wherein the antibody is immobilized on a
2 solid surface.
- 1 40. The method of claim 38, wherein the antigen is immobilized on a solid
2 surface.
- 1 41. The method of claim 38, wherein the antibody is labeled, such that the
2 antigen/antibody complex can be detected.
- 1 42. The method of claim 41, wherein the label is an enzyme capable of
2 generating a detectable signal.
- 1 43. The method of claim 41, wherein the label is radioactive iodine.
- 1 44. The method of claim 41, wherein the label is biotin.
- 1 45. The method of claim 41, wherein the complex is detected using a
2 second labeled antibody.
- 1 46. The method of claim 41, wherein the biological sample is serum.
- 1 47. A kit for detection of equine immunoglobulin E in a biological sample,
2 the kit comprising:
3 the composition of claim 10; and
4 means for detecting specific binding of said antibody to equine
5 immunoglobulin E.